

National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices

For:

Bench Scale, Top Loading Balance
Digital Electronic
Models: HR-60, HR-60G and HR-60GD
 n_{\max} : 60 000
Capacity: 60 x 0.001 gram
Platform: 120 mm diameter

Accuracy Class: II

Submitted by:

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Standard Features and Options

- Model HR-60 and HR-60GD have the following selectable units using the “mode” key: gram, ounce, pound, troy ounce, pennyweight, metric carat, momme, tael (Hong Kong, Singapore, Taiwan, and China), and tola (India)
- Model HR-60G displays gram units only
- “The counting feature is not legal for trade” is labeled on the front of the scale
- Counting and percent weighing (Model HR-60 only)
- Semi-automatic zero with motion detection
- Automatic zero setting mechanism
- Gravity correction capability
- AC power adapter
- Level indicator
- LCD display (Liquid Crystal Display)
- “Lb” annunciator indicates low battery condition

Option: Rechargeable battery pack

Temperature Range: 5 °C to 40 °C (41 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, “Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.” Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: July 8, 1997

Gilbert M. Ugiansky, Ph.D.
Chief, Office of Weights and Measures
Issue Date: August 15, 1997

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A & D Engineering, Inc.
Bench Scale, Top Loading Balance
Models: HR-60, HR-60G and HR-60GD

Application: General purpose top loading balances. The scales are suitable for use as a jewelers or grain test scale, except for GIPSA (formerly FGIS) grain grading applications. Some weight units may not be suitable for all types of measurements. The tael, tola, and momme are units used to measure precious stones.

Identification: The manufacturer's identification, model number, and serial number are on a pressure sensitive, self-destructive label located on the right side of the scale.

Sealing: To prevent access to an internal calibration switch, the scale can be sealed using a wire security seal threaded through holes drilled into tabs mounted on the upper and lower housing. The tabs for sealing are located behind the device on the left-hand side.

Test Conditions: The Model HR-60 was submitted for evaluation. The emphasis of the evaluation was on device design, performance, and compliance with influence factor and permanence requirements. The scale was tested over a temperature range of 5 °C to 40 °C (41 °F to 104 °F). Tests were conducted over a voltage range of 100 VAC to 130 VAC and 10.8 VDC to 13.6 VDC. A load of approximately one-half capacity was applied to the scale more than 100 000 times. Increasing/decreasing load and shift tests were conducted periodically during this time.

The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Type Evaluation Criteria Used: NIST Handbook 44, 1997 Edition

Tested By: Norman Ingram (CA)